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Photo by Staff Sgt. Lynne Neveu / 48th CS



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the game

By Lt. Gen. Tom Hobbins Deputy Chief of Staff for Warfighting Integration

PENTAGON—The Airborne Networking initiative within Warfighting Integration was created when the Chief of Staff explicitly charged us to “close the seams in [the] kill chain by integrating manned, unmanned, and space systems, thereby enabling commanders to create the desired effects in the battlespace.”

Currently, our warfighters are hampered because our services, allies and coalition partners use communications systems with limited interoperability. We have more than three-quarters of a million radios with 25 different models in use within the U.S. military alone—most of which are incompatible.

I’m committed to overcoming these shortcomings and providing our warfighters the information superiority they can translate into combat power. To accomplish this, we’re implementing an approach to revolutionize and integrate our warfighters’ communication capabilities.

The C4ISR Infostructure Directorate, or XIC, is tasked with leading our efforts to bring airborne net-centric operations to the fight, and to bring global connectivity to the kill chain with dynamic Internet Protocol routing, shared data and assured access. Its charter is to establish the Global Information Grid vision of a “seamless integration of the space, air and ground domains through IP routing occurring at all levels and platforms.”

The Airborne Integration division, or XICA, in conjunction with the Air Force Communications Agency is helping to establish XI’s direction for moving our airborne systems to an IP-based network that will close the seams in the kill chain by enabling global network connectivity and providing greater speed, precision and global warfighter information superiority.

Obviously, this is an enormous effort. It requires extensive planning, programming and continual evaluation. We began this intensive process by identifying those communications capabilities that would provide the end-state capability defined by the Chief. Next, we initiated a series of planning documents designed to define and capture those capabilities and establish baselines with fixed milestones.

In January of this year, the Chief was briefed on the C4ISR

From
the Top

Flight Plan. This Flight Plan systematically depicts the step-by-step progress we want for Joint Vision 2020’s network-centric warfare capabilities.

On the technical side, one of the first issues tackled was the compatibility concern across the joint platforms. **The solution was to migrate our stovepiped systems to platforms employing a common architecture. That communication standard is the Software Communications Architecture.** This SCA standard will provide us with new military radios that provide customizable communications services for each service, without compromising the ability to communicate with one another. Two of these radio systems are the Joint Tactical Radio System and the Family of Advanced Beyond line of sight Terminals, or FAB-T. These new systems will use the SCA standards and execute an interoperable IP-based waveform. These software programmable radios will provide multi-channel voice, data, imagery and video. Additionally, these radios will provide the flexibility to operate with systems used by federal, state and local responders involved in homeland security efforts.

Further down the road, the full potential of AN will begin to be realized through the implementation of Transformational Communications. The TC concept brings IP-based routers to space platforms that will enable a global, intelligent IP-based network capability. TC will bring the anticipated “internet in the sky” capability to fruition, migrating us away from present satellite communication links and limitations, and enable a seamless integration between airborne and space platforms. TC provides the technology capability enablement to get the right data to the right place at the right time at any location around the globe.

XIC is also aggressively pursuing emerging and advanced technologies to facilitate our vision. One example is the Defense Advanced Research Projects Agency experiment known as ORCLE, or Optical RF Combined Link Experiment, designed to provide laser/RF communication between platforms. This will allow for a shared operating picture, increased operations tempo and survivability, providing for greater lethality. The end result will be a seamless, self-forming, self-healing and assured access global information grid across air, space, sea and ground.